

THE ANNALS
AND
MAGAZINE OF NATURAL HISTORY.

[SECOND SERIES.]

No. 78. JUNE 1854.

XXXIX.—*On some new Genera and Species of Fossil Fishes.*
By SIR PHILIP GREY EGERTON, Bart., F.R.S. &c.

To the Editors of the Annals of Natural History.

GENTLEMEN,

IN the early part of last year I was solicited to undertake the preparation of a second Decade of fossil fishes for the Memoirs of the Geological Survey of the United Kingdom. Having materials at hand I completed the task assigned to me, and delivered in the manuscript in the commencement of the month of July. In consequence however of a press of business in the Stationery Office, I have not yet received the proofs for correction, nor, as far as I have been able to learn, is there any likelihood of the matter being proceeded with for some time to come. The manuscript contains the detailed descriptions of twelve new species, comprising three new genera; most of them from the Purbeck beds and the Lias. The delay of publication of these materials having almost reached twelve months, I am induced to ask for a vacant space in your Magazine for the following short descriptions of the species, in order that Mr. Morris and others, who have works in progress on British Palæontology, may be put in possession of these additions to our fossil fauna.

Genus ASTERACANTHUS, Agassiz.

A. granulatus, Egerton. An ichthyodorulite about 1 foot in length, characterized by the small size of the tubercles ornamenting the exposed portion of the spine.

Locality. Hastings sand, Tilgate Forest. Decade 8. pl. 1.

A. verrucosus, Egerton. An ichthyodorulite of common occurrence at Swanage. The surface is closely beset with stelliform tubercles rising from circular expanded pedestals.

Locality. Purbeck beds, Swanage. Decade 8. pl. 2.

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A. semiverrucosus, Egerton. This species rests upon a single specimen in the Dorchester Museum. It is characterized by its short and falciform figure, and by the peculiarity of the surface ornament, consisting of an intermixture of coarse tubercles with raised lines, similar to those on the spines of the genus *Hybodus*.

Locality. Purbeck beds, Swanage. Decade 8. pl. 3.

A. papillosus, Egerton. Although not a British species, this is alluded to as completing the enumeration of the species of this genus. It is an ichthyodorulite of short and massive proportions, having its surface invested with large round papillæ.

Locality. Oolite, Caen.

Genus PHOLIDOPHORUS, Agassiz.

P. granulatus, Egerton. This species more nearly resembles the *P. ornatus* of Agassiz than any other. It differs in the deeper proportions of the body and in the characters of the scales, which are more oblong and have the striations finer and more regular, and the posterior margins less deeply serrated. Those in the vicinity of the dorsal fin are granulated.

Locality. Purbeck beds, Swanage. Decade 8. pl. 4.

Genus HISTIONOTUS, Egerton.

This genus has some affinities to *Lepidotus* and *Semionotus*. It resembles the former in the outline of the head and trunk, and the latter in the large size of the dorsal fin. This organ however occupies a much greater extent of surface, commencing near the nape of the neck and reaching almost to the caudal fin.

H. angularis, Egerton. The species is characterized by the abrupt angles occurring at the occiput and at the insertion of the dorsal fin. The scales somewhat resemble those of a large *Pholidophorus* and are similarly articulated; they are finely serrated on the posterior margin. The teeth are fine and conical.

Locality. Purbeck beds, Swanage. Decade 8. pl. 5.

Genus ASPIDORHYNCHUS, Agassiz.

A. fisheri, Egerton. This is a slender species, differing in its proportions from any of the species figured in the 'Poissons Fossiles.' The scales along the dorsal line are curiously figured with irregular vermiform ridges running longitudinally. The teeth are sharp and numerous.

Locality. Purbeck beds, Swanage. Decade 8. pl. 6.

Genus PHOLIDOPHORUS, Agassiz.

P. higginsi, Stutchbury. This *Pholidophorus* was named some years ago by Mr. Stutchbury of the Bristol Institution in honour of its discoverer Mr. Higgins, but has not been described. It is a diminutive species, remarkable for the large size of the scales and the thickness of the ganoine which covers them. Those on the anterior part of the trunk are deeply notched; the duct tubes of the lateral line are very prominent.

Locality. Lias, Aust. Decade 8. pl. 7. figs. 1-5.

P. nitidus, Egerton. This species differs from *P. higginsi* in the greater regularity and more even surface of the scales, which are also devoid of serrations. The body of the fish is more elongated.

Locality. Lias, Aust. Decade 8. pl. 7. figs. 6-8.

Genus LEGNONOTUS, Egerton.

A small fish remarkable for the extent of the dorsal fin, which occupies the entire length of the back. The scales have considerable resemblance to those of *Pholidophorus*, near to which genus *Legnonotus* must be classified.

L. cothamensis, Egerton. Until a second species of this genus has been discovered, the generic characters will suffice to identify it. The scales are not unlike those of *Pholidophorus higginsi* in proportions and relative position and arrangement; they are more extensively notched at the free margin, and the serrations are shorter and more obtuse. The teeth are stronger and not so numerous as in the *Pholidophori*.

Locality. This fish was discovered with the two preceding species in a block of Cotham marble. Decade 8. pl. 7. figs. 9-12.

Genus PTYCHOLEPIS, Agassiz.

P. curtus, Egerton. This species is distinguished from the only other species of the genus, *Ptycholepis bollensis*, Agass., by its shortened body and the large proportions of the head.

Locality. Lias, Lyme Regis. Decade 8. pl. 8.

Genus OXYGNATHUS, Egerton.

A genus appertaining to the family of the *Sauroidei*, near *Eugnathus*, but distinguished from that genus by the sharpened form and thin texture of the dentigerous bones and the smallness of the teeth. The scales have more affinity with those of *Acrolepis*.

O. ornatus, Egerton. Under the designation of specific characters may be noticed the delicate striated surface ornament of the head bones of this fish, and the highly ornamental pattern on the scales.

Locality. Lias, Lyme Regis. Decade 8. pl. 9.

Genus PYCNODUS, Agass.

P. liassicus, Egerton. This, the only specimen of the genus found so low as the Lias, is remarkable for the tuberculate ornament on the scales, and the variety in the size and form of the teeth.

Locality. Lias, Barrow on Soar. Decade 8. pl. 10.

Plates illustrative of the above species, beautifully drawn and lithographed by Mr. Dinkel, may be seen at the Meeting of the Geological Society on the 7th of June.

I have the honour to be, Gentlemen,
Your obedient servant,

P. DE M. GREY EGERTON.

6 Albemarle Street, May 15, 1854.

XL.—*Monograph of the British Graphideæ.*
By the Rev. W. A. LEIGHTON, B.A., F.B.S.E.

[Concluded from p. 395.]

8. *Arthonia*, Ach.

Apothecium (*ardella*) roundish, or difformed, tumid, innately sessile, covered with a subcartilaginous membrane, within subgelatinous, containing immediately under the surface a series of pyriform asci; perithecium none; disk nearly plane, not bordered, black, rough. Thallus cartilagineo-membranaceous.

“Name from *ἄρθω* to sprinkle, according to Acharius, because the numerous apothecia are as it were sprinkled over the crust: but M. Fée justly remarks that *ἄρδω* (and not *ἄρθω*) is to *sprinkle*, and that therefore the name ought to be *Ardonia*.” Hook. Br. Fl. 2. 142.

I propose to designate the apothecium by the term *ardella*, significant of its appearance as a sprinkled spot.

1. *Arthonia epipasta*, β . *microscopica*. Thallus thin, membranous, smooth, shining, grey or copper-coloured, irregularly circumscribed; *ardellæ* innate, scattered, oblong or elongato-